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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,294	07/25/2000	Chandra Mohan	RCA 89,813	7033

7590

04/24/2003

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EXAMINER

LIU, SHUWANG

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/626,294

Applicant(s)

MOHAN ET AL.

Examiner

Shuwang Liu

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-4, 8-11, 14 and 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Mohan et al. (WO 99/46861, see IDS, paper #5).

As shown in Figure 7, Mohan et al. discloses a digital data modulator, characterized by:

(1) regarding claim 1:

a source (NRZ DATA) of a digital data signal;

an encoder (200), for encoding the digital data using a variable pulse width code;

a pulse signal generator ((710) (it is inherent that the balanced modulator (710) is employed as a differential amplifier, that is the balanced modulator is a differentiator), generating respective pulses representing edges of the encoded digital data signal; and

a carrier signal generator (724), for generating a carrier signal having carrier pulses corresponding to the respective pulses.

(2) regarding claim 2:

the variable pulse width codes are a variable aperture code (figure 5).

(3) regarding claim 3:

the encoder (200) generates an encoded digital data signal having leading edges and trailing edges;

the pulse signal generator (710) generates positive pulses in response to a first edge in the digital data signal and negative pulses in response to a different second edge in the digital data signal; and

the carrier signal generator (724) generates a carrier pulse having a first phase in response to a positive pulse and having a second phase in response to a negative pulse.

(4) regarding claim 4:

the first phase is substantially 180 degrees out of phase with the second phase (figure 6);

said first edge is a leading edge (figure 6); and

said second edge is a trailing edge (figure 6).

(5) regarding claim 8:

As shown in Figure 8, Mohan et al. discloses digital data demodulator, characterized by:

a source (802) of a modulated signal, having carrier pulses spaced relative to each other to represent a variable pulse width encoded digital data signal;

a detector (812) for generating a variable pulse width encoded signal in response to received carrier pulses;

a decoder (836) for decoding the variable pulse width encoded signal to

generate the digital data signal.

(6) regarding claim 9:

the variable pulse width code is a variable aperture code (figure 5).

(7) regarding claim 10:

the carrier pulses have one of a first phase and a second phase (figure 6).

(8) regarding claim 11:

characterized in that the first phase is substantially 180 degrees out of phase with the second phase (figure 6).

(9) regarding claim 14:

As shown in Figure 7, Mohan et al. discloses a digital data modulation method characterized by the steps of:

providing a source of a digital data signal (NRZ DATA);

encoding (200) the digital data using a variable pulse width code;

generating (710) respective pulses representing edges of the encoded digital data signal; and

generating (724) a carrier signal having carrier pulses corresponding to the respective pulses.

(10) regarding claim 15:

As shown in Figure 8, Mohan et al. discloses a digital data demodulation method characterized by the steps of:

providing (802) a source of a modulated signal, having carrier pulses spaced relative to each other to represent a variable pulse width encoded digital data signal;

generating (812) a variable pulse width encoded signal in response to received carrier pulses;

decoding (836) the variable pulse width encoded signal to generate the digital data signal.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 2, 5-12, 14 and 15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 10-13 and 15-18 and of patent No. 6,359, 525. Although the conflicting claims are not identical, they are not patentably distinct from each other because the broader application claims would have been obvious in view of the narrow issued claims (see *In re Emert*, 124 F.3d 1458, 44 USPQ2d 1149).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Allowable Subject Matter***

5. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

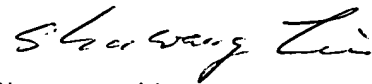
**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Application/Control Number: 09/626,294  
Art Unit: 2634

Page 7

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu  
Primary Examiner  
Art Unit 2634

April 18, 2003